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09/894,668	06/27/2001	Srinivas Tadepalli	STL9760	6951

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EXAMINER

RENNER, CRAIG A

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/894,668

Applicant(s)

TADEPALLI ET AL.

Examiner

Craig A. Renner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 & 3. 6) ☐ Other: .

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 C.F.R. § 1.84(p)(5) because they include one or more reference signs not mentioned in the description. Note, for instance, "114" (shown in FIG. 1, for instance). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 4-6, 10-18 and 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Westwood (US 4,647,997).

With respect to claims 1-2, 4-6 and 10-14, Westwood teaches an airstream conditioning apparatus comprising an airstream stripper (includes 64) supportable downstream of an actuator (includes 24) with respect to the direction of air currents produced by a rotating data storage disc (18) (as shown in FIG. 1, for instance) [as per claim 1]; wherein the airstream stripper comprises a vane (64) extending substantially radially from an outer radial portion to an inner radial portion of the data storage disc (as shown in FIGS. 1-2, for instance) [as per claim 2]; wherein the vane is disposed substantially transverse to a distal end of the actuator (as shown in FIG. 1, for instance) [as per claim 4]; wherein the apparatus further comprises a frame (includes 12) supportable by an enclosure (includes 74) that, in turn, supports the airstream stripper [as per claim 5]; wherein the frame further comprises a shroud defining a perimeter surface substantially transverse to the data storage disc outer edge and intersecting the airstream stripper (as shown in FIG. 1, for instance) [as per claim 6]; wherein the frame supports the airstream stripper in movement between an operative position and a retracted position (as shown in FIG. 1, for instance) [as per claim 10]; wherein the frame comprises a retaining member (includes 58) retaining the airstream stripper in the operative position [as per claim 11]; wherein the frame comprises a bias member (75) compressingly engageable with the enclosure providing an attachment force on the frame within the enclosure [as per claim 12]; wherein the perimeter surface is separated from the data storage disc edge a first distance at a first end (adjacent 76) of the perimeter surface adjacent the airstream stripper, and wherein the perimeter surface is separated from the data disc edge a second distance at a second end (adjacent 86) of

the perimeter surface, the second distance being greater than the first distance (as shown in FIG. 1, for instance) [as per claim 13]; and wherein the data storage device comprises a disc drive assembly (as shown in FIGS. 1-2, for instance) [as per claim 14].

With respect to claims 15-18, Westwood teaches a disc drive comprising an enclosure comprising a base (12) and a cover (74); a disc stack (includes 18 and 70) rotated by a motor (16) supported upon the base; an actuator (includes 24) supported by the base and having a distal end moving a data transfer element (40) in a data transfer relationship with a data storage surface (20) of the disc stack; and an airstream conditioning apparatus supported by the enclosure comprising an airstream stripper (includes 64) downstream of the actuator with respect to the direction of air currents generated by the rotating disc stack (as shown in FIG. 1, for instance) [as per claim 15]; wherein the airstream stripper comprises a vane (64) extending substantially radially from an outer radial portion to an inner radial portion of the disc stack and adjacent the data storage surface (as shown in FIGS. 1-2, for instance) [as per claim 16]; wherein the vane is disposed substantially transverse to the actuator distal end (as shown in FIG. 1, for instance) [as per claim 17]; and wherein the airstream conditioning apparatus comprises a shroud defining a perimeter surface substantially transverse to the disc stack outer edge and intersecting the airstream stripper (as shown in FIG. 1, for instance) [as per claim 18].

With respect to claims 20-23, Westwood teaches a disc drive comprising a base (12) supporting a spinning data storage disc (18) operatively interfacing with an actuator (includes 24) in a data reading and writing relationship; and means (includes 64, for

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instance, in at least an equivalent structural sense) for limiting the aerodynamic excitation resulting from air currents generated by the spinning disc [as per claim 20]; wherein the means for limiting aerodynamic excitation comprises an airstream stripper vane (64) extending substantially radially from an outer radial portion to an inner radial portion of the disc downstream of the actuator and disc interface with respect to the direction of the air currents (as shown in FIG. 1, for instance) [as per claim 21]; wherein the vane is disposed substantially transverse to a distal end of the actuator (as shown in FIG. 1, for instance) [as per claim 22]; and wherein the means for limiting aerodynamic excitation comprises a shroud defining a perimeter surface substantially transverse to the disc outer edge and intersecting the airstream stripper vane (as shown in FIG. 1, for instance) [as per claim 23].

4. Claims 1-6, 13-18 and 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Hashizume et al. (US 6,449,119).

With respect to claims 1-6 and 13-14, Hashizume teaches an airstream conditioning apparatus comprising an airstream stripper (includes 6) supportable downstream of an actuator (5) with respect to the direction of air currents produced by a rotating data storage disc (3) (as shown in FIG. 1A, for instance) [as per claim 1]; wherein the airstream stripper comprises a vane (6) extending substantially radially from an outer radial portion to an inner radial portion of the data storage disc (as shown in FIG. 1A, for instance) [as per claim 2]; wherein the airstream stripper comprises a plurality of vanes (each 6) extending substantially radially from an outer radial portion to

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an inner radial portion of data storage discs (each 3) of a disc stack and between adjacent data storage discs (as shown in FIGS. 1A and 1B, for instance) [as per claim 3]; wherein the vane is disposed substantially transverse to a distal end of the actuator (as shown in FIG. 1A, for instance) [as per claim 4]; wherein the apparatus further comprises a frame (includes shroud portion of 2) supportable by an enclosure (includes remaining portion of 2) that, in turn, supports the airstream stripper [as per claim 5]; wherein the frame further comprises a shroud defining a perimeter surface substantially transverse to the data storage disc outer edge and intersecting the airstream stripper (as shown in FIG. 1A, for instance) [as per claim 6]; wherein the perimeter surface is separated from the data storage disc edge a first distance at a first end (adjacent 6) of the perimeter surface adjacent the airstream stripper, and wherein the perimeter surface is separated from the data disc edge a second distance at a second end (adjacent unlabeled area curved arrow is drawn toward) of the perimeter surface, the second distance being greater than the first distance (as shown in FIG. 1A, for instance) [as per claim 13]; and wherein the data storage device comprises a disc drive assembly (as shown in FIG. 1A, for instance) [as per claim 14].

With respect to claims 15-18, Hashizume teaches a disc drive comprising an enclosure (2) comprising a base (part of 2) and a cover (unshown part of 2 but necessary for the disk drive components to be "enclosed", line 10 in column 3, for instance); a disc stack (includes 3) rotated by a motor supported upon the base (lines 20-21 in column 1, for instance); an actuator (5) supported by the base and having a distal end moving a data transfer element (4) in a data transfer relationship with a data

storage surface of the disc stack; and an airstream conditioning apparatus supported by the enclosure comprising an airstream stripper (includes 6) downstream of the actuator with respect to the direction of air currents generated by the rotating disc stack (as shown in FIG. 1A, for instance) [as per claim 15]; wherein the airstream stripper comprises a vane (6) extending substantially radially from an outer radial portion to an inner radial portion of the disc stack and adjacent the data storage surface (as shown in FIGS. 1A and 1B, for instance) [as per claim 16]; wherein the vane is disposed substantially transverse to the actuator distal end (as shown in FIG. 1A, for instance) [as per claim 17]; and wherein the airstream conditioning apparatus comprises a shroud defining a perimeter surface substantially transverse to the disc stack outer edge and intersecting the airstream stripper (as shown in FIG. 1A, for instance) [as per claim 18].

With respect to claims 20-23, Hashizume teaches a disc drive (1) comprising a base (2) supporting a spinning data storage disc (3) operatively interfacing with an actuator (5) in a data reading and writing relationship; and means (includes 6, for instance, in at least an equivalent structural sense) for limiting the aerodynamic excitation resulting from air currents generated by the spinning disc [as per claim 20]; wherein the means for limiting aerodynamic excitation comprises an airstream stripper vane (6) extending substantially radially from an outer radial portion to an inner radial portion of the disc downstream of the actuator and disc interface with respect to the direction of the air currents (as shown in FIG. 1A, for instance) [as per claim 21]; wherein the vane is disposed substantially transverse to a distal end of the actuator (as shown in FIG. 1A, for instance) [as per claim 22]; and wherein the means for limiting

aerodynamic excitation comprises a shroud defining a perimeter surface substantially transverse to the disc outer edge and intersecting the airstream stripper vane (as shown in FIG. 1A, for instance) [as per claim 23].

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. § 103(c) and potential 35 U.S.C. § 102(e), (f) or (g) prior art under 35 U.S.C. § 103(a).

7. Claims 7-9, 19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashizume et al. (US 6,449,119) in view of Izumi et al. (US 6,487,038).

Hashizume teaches the invention as detailed in paragraph 4, supra. Hashizume, however, remains silent as to "wherein the shroud comprises a fin defining a planar surface extending from the perimeter surface and substantially coextensive with the data storage disc" as per claim 7, "wherein the fin comprises opposing planar surfaces

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substantially coextensive with the respective data storage surface” as per claim 8, “wherein the fin comprises an edge substantially transverse to the planar surface and closely matingly parallel with the data disc outer edge” as per claim 9, and wherein the fin extends “from the perimeter surface substantially parallel with the disc ” as per claims 19 and 24.

Izumi teaches a shroud (18) comprising a fin (between each 21) defining a planar surface extending from a perimeter surface and substantially coextensive with a data storage disc (as shown in FIG. 2, for instance), wherein the fin comprises opposing planar surfaces substantially coextensive with respective data storage surfaces (as shown in FIG. 2, for instance), wherein the fin comprises an edge substantially transverse to the planar surfaces and closely matingly parallel with a data disc outer edge (as shown in FIG. 2, for instance); and wherein the fin extends from the perimeter surface substantially parallel with the disc (as shown in FIG. 2, for instance) in the same field of endeavor for the purpose of suppressing flutter. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the shroud of Hashizume comprise a fin defining a planar surface extending from the perimeter surface and substantially coextensive with the data storage disc, wherein the fin comprises opposing planar surfaces substantially coextensive with the respective data storage surface, wherein the fin comprises an edge substantially transverse to the planar surface and closely matingly parallel with the data disc outer edge, and wherein the fin extends from the perimeter surface substantially parallel with the disc, as taught by Izumi. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the shroud of Hashizume comprise a fin defining a planar surface extending from the perimeter surface and substantially coextensive with the data storage disc, wherein the fin comprises opposing planar surfaces substantially coextensive with the respective data storage surface, wherein the fin comprises an edge substantially transverse to the planar surface and closely matingly parallel with the data disc outer edge, and wherein the fin extends from the perimeter surface substantially parallel with the disc, as taught by Izumi, since such suppresses flutter.

#### ***Pertinent Prior Art***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Yagi et al. (US 5,654,847) and Chang et al. (US 2002/0075591), which each individually teaches a disc drive airstream stripper vane; and Tadepalli (US 6,462,901) and Tadepalli et al. (US 2002/0008934), which each individually teaches a disc drive shroud fin.

#### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (703) 308-0559. The examiner can normally be reached on Tuesday-Friday 7:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone numbers

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for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Craig A. Renner  
Primary Examiner  
Art Unit 2652

CAR  
August 11, 2003